FCC RF Test Report

(Bluetooth)

Applicant:	Sky Phone LLC
Address of Applicant:	1348 Washington Av. Suite 350, Miami Beach, FL 33139
Equipment Under Test (EUT)	
Product Name:	Smart phone
Model No.:	Sky PrestigeX1
Trade mark:	SKY DEVICES
FCC ID:	2ABOSSKYPRESTGX1
Applicable standards:	FCC CFR Title 47 Part 15C (§15.247)
Date of sample receipt:	12 Jan., 2022
Date of Test:	13 Jan., to 02 Mar., 2022
Date of report issued:	03 Mar., 2022
Test Result:	PASS

Tested by:	Test Engineer	***Date:***	*03 Mar., 2022*
Reviewed by:	Project Engineer	***Date:***	*03 Mar., 2022*
Approved by:	Manager	***Date:***	*03 Mar., 2022*

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in above the application standard version. Test results reported herein relate only to the item(s) tested.

2 Version

Version No.	Date	Description
00	*03 Mar., 2022*	*Original*

3 Contents

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4 General Information

4.1 Client Information

Applicant:	Sky Phone LLC
Address:	1348 Washington Av. Suite 350, Miami Beach, FL 33139
Manufacturer:	Sky Phone LLC
Address:	1348 Washington Av. Suite 350, Miami Beach, FL 33139

4.2 General Description of E.U.T.

Product Name:	Smart phone
Model No.:	Sky PrestigeX1
Operation Frequency:	2402 MHz - 2480 MHz
Transfer rate:	1/2/3 Mbits/s
Number of channel:	79
Modulation type:	GFSK, π/4-DQPSK, 8DPSK
Modulation technology:	FHSS
Antenna Type:	Internal Antenna
Antenna gain:	0.5 dBi
Power supply:	Rechargeable Li-ion Battery DC3.8V, 2500mAh
AC adapter:	Input: AC100-240V, 50/60Hz, 0.2A Output: DC 5.0V, 1000mA
Test Sample Condition:	The test samples were provided in good working order with no visible defects.

4.3 Test Mode and Test Environment

Test Modes:	
Non-hopping mode:	Keep the EUT in continuous transmitting mode.
Hopping mode:	Keep the EUT in hopping mode.
Remark: *For AC power line conducted emission and radiated spurious emission, pre-scan GFSK, π/4-DQPSK, 8DPSK Modulation mode, found GFSK was worse case mode. The report only reflects the test data of worst mode.*	
Operating Environment:	
Temperature:	15℃ ~ 35℃
Humidity:	20 % ~ 75 % RH
Atmospheric Pressure:	1010 mbar

4.4 Description of Support Units

The EUT has been tested as an independent unit.

4.5 Measurement Uncertainty

Parameter	Expanded Uncertainty (Confidence of 95%(U = 2Uc(y)))
Conducted Emission for LISN (9kHz ~ 150kHz)	±3.11 dB
Conducted Emission for LISN (150kHz ~ 30MHz)	±2.62 dB
Radiated Emission (30MHz ~ 1GHz) (3m SAC)	±4.45 dB
Radiated Emission (1GHz ~ 18GHz) (3m SAC)	±5.34 dB
Radiated Emission (18GHz ~ 40GHz) (3m SAC)	±5.34 dB
Radiated Emission (30MHz ~ 1GHz) (10m SAC)	±4.32 dB
Note: *All the measurement uncertainty value were shown with a coverage k=2 to indicate 95% level of confidence. The measurement data show herein meets or exceeds the CISPR measurement uncertainty values specified in CISPR 16-4-2 and can be compared directly to specified limit to determine compliance.*	

4.6 Additions to, Deviations, or Exclusions From the Method

No

4.7 Laboratory Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **FCC - Designation No.: CN1211**

JianYan Testing Group Shenzhen Co., Ltd. has been accredited as a testing laboratory by FCC(Federal Communications Commission). The test firm Registration No. is 727551.

- **ISED – CAB identifier.: CN0021**

The 3m Semi-anechoic chamber and 10m Semi-anechoic chamber of JianYan Testing Group Shenzhen Co., Ltd. has been Registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 10106A-1.

- **CNAS - Registration No.: CNAS L15527**

JianYan Testing Group Shenzhen Co., Ltd. is accredited to ISO/IEC 17025:2017 General Requirements for the Competence of Testing and Calibration laboratories for the competence of testing. The Registration No. is CNAS L15527.

- **A2LA - Registration No.: 4346.01**

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories. The test scope can be found as below link: https://portal.a2la.org/scopepdf/4346-01.pdf

4.8 Laboratory Location

JianYan Testing Group Shenzhen Co., Ltd.
Address: No.101, Building 8, Innovation Wisdom Port, No.155 Hongtian Road, Huangpu Community, Xinqiao Street, Bao'an District, Shenzhen, Guangdong, People's Republic of China.
Tel: +86-755-23118282, Fax: +86-755-23116366
Email: info-JYTee@lets.com, Website: http://jyt.lets.com

4.9 Test Instruments list

Radiated Emission:					
Test Equipment	**Manufacturer**	**Model No.**	**Manage No.**	**Cal.Date (mm-dd-yy)**	**Cal. Due date (mm-dd-yy)**
3m SAC	ETS	9m*6m*6m	WXJ001-1	01-19-2021	01-18-2024
BiConiLog Antenna	Schwarzbeck	VULB9163	WXJ002	03-03-2021	03-02-2022
				02-17-2022	02-16-2023
Biconical Antenna	Schwarzbeck	VUBA9117	WXJ002-1	06-20-2021	06-19-2022
Horn Antenna	Schwarzbeck	BBHA9120D	WXJ002-2	03-03-2021	03-02-2022
				02-17-2022	02-16-2023
Horn Antenna	Schwarzbeck	BBHA9120D	WXJ002-3	06-18-2021	06-17-2022
Pre-amplifier (30MHz ~ 1GHz)	Schwarzbeck	BBV9743B	WXG001-7	03-07-2021	03-06-2022
				02-17-2022	02-16-2023
Pre-amplifier (1GHz ~ 18GHz)	SKET	LNPA_0118G-50	WXG001-3	03-07-2021	03-06-2022
				02-17-2022	02-16-2023
Pre-amplifier (18GHz ~ 40GHz)	RF System	TRLA-180400G45B	WXG001-9	03-07-2021	03-06-2022
				02-17-2022	02-16-2023
EMI Test Receiver	Rohde & Schwarz	ESRP7	WXJ003-1	03-03-2021	03-02-2022
				02-17-2022	02-16-2023
Spectrum Analyzer	KEYSIGHT	N9010B	WXJ004-2	10-27-2022	10-26-2022
Coaxial Cable (30MHz ~ 1GHz)	JYT	JYT3M-1G-NN-8M	WXG001-4	03-07-2021	03-06-2022
				02-17-2022	02-16-2023
Coaxial Cable (1GHz ~ 18GHz)	JYT	JYT3M-18G-NN-8M	WXG001-5	03-07-2021	03-06-2022
				02-17-2022	02-16-2023
Coaxial Cable (18GHz ~ 40GHz)	JYT	JYT3M-40G-SS-8M	WXG001-7	03-07-2021	03-06-2022
				02-17-2022	02-16-2023
Band Reject Filter Group	Tonscend	JS0806-F	WXJ089	N/A	
Test Software	Tonscend	TS+	Version: 3.0.0.1		

Radiated Emission(10m SAC):					
Test Equipment	**Manufacturer**	**Model No.**	**Manage No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
10m SAC	ETS	RFSD-100-F/A	WXJ090	04-28-2021	04-27-2024
BiConiLog Antenna	SCHWARZBECK	VULB 9168	WXJ090-1	04-02-2021	04-01-2022
BiConiLog Antenna	SCHWARZBECK	VULB 9168	WXJ090-2	04-02-2021	04-01-2022
EMI Test Receiver	R&S	ESR 3	WXJ090-3	04-08-2021	04-07-2022
EMI Test Receiver	R&S	ESR 3	WXJ090-4	04-08-2021	04-07-2022
Low Pre-amplifier	Bost	LNA 0920N	WXG002-3	04-06-2021	04-05-2022
Low Pre-amplifier	Bost	LNA 0920N	WXG002-4	04-06-2021	04-05-2022
Cable	Bost	JYT10M-1G-NN-10M	XG002-7	04-02-2021	04-01-2022
Cable	Bost	JYT10M-1G-NN-10M	XG002-8	04-02-2021	04-01-2022
Test Software	R&S	EMC32	Version: 10.50.40		

Conducted Emission:					
Test Equipment	**Manufacturer**	**Model No.**	**Manage No.**	**Cal.Date (mm-dd-yy)**	**Cal. Due date (mm-dd-yy)**
EMI Test Receiver	Rohde & Schwarz	ESCI 3	WXJ003	03-03-2021	03-02-2022
				02-17-2022	02-16-2023
RF Switch	TOP PRECISION	RSU0301	WXG003	03-03-2021	03-02-2022
				02-17-2022	02-16-2023
LISN	Schwarzbeck	NSLK 8127	QCJ001-13	03-18-2021	03-17-2022
				02-17-2022	02-16-2023
LISN	Rohde & Schwarz	ESH3-Z5	WXJ005-1	06-18-2021	06-17-2022
LISN Coaxial Cable (9kHz ~ 30MHz)	JYTSZ	JYTCE-1G-NN-2M	WXG003-1	03-03-2021	03-02-2022
				02-17-2022	02-16-2023
Test Software	AUDIX	E3	Version: 6.110919b		

Conducted Method:					
Test Equipment	**Manufacturer**	**Model No.**	**Manage No.**	**Cal. Date (mm-dd-yy)**	**Cal. Due date (mm-dd-yy)**
Spectrum Analyzer	Keysight	N9010B	WXJ004-3	10-25-2021	10-24-2022
Vector Signal Generator	Keysight	N5182B	WXJ006-6	10-25-2021	10-24-2022
Signal Generator	Keysight	N5173B	WXJ006-4	10-25-2021	10-24-2022
Wireless Connectivity Tester	Rohde & Schwarz	CMW270	WXJ008-7	10-25-2021	10-24-2022
DC Power Supply	Keysight	E3642A	WXJ025-2	10-25-2021	10-24-2022
Temperature Humidity Chamber	HONG ZHI	CZ-A-80D	WXJ032-3	03-19-2021	03-18-2022
Power Detector Box	MWRFTEST	MW100-PSB	WXJ007-4	10-25-2021	10-24-2022
RF Control Unit	MWRFTEST	MW100-RFCB	WXG006	N/A	
Test Software	MWRFTEST	MTS 8310	Version: 2.0.0.0		

5 Measurement setup and procedure

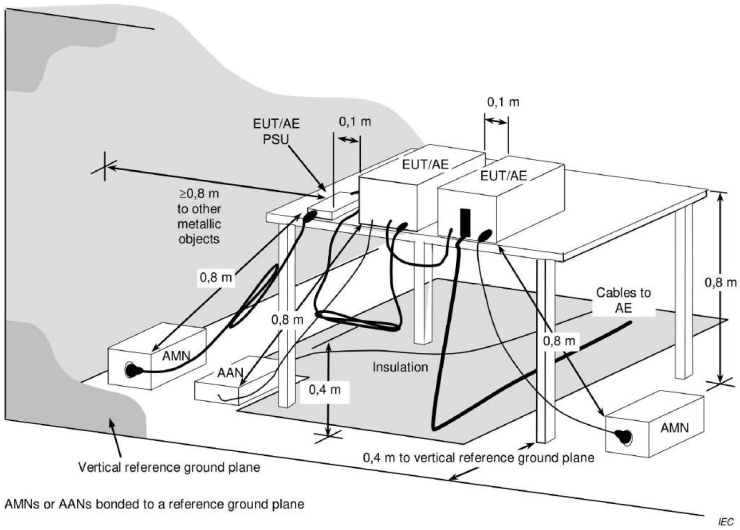
5.1 Test channel

According to ANSI C63.10-2013 chapter 5.6.1 Table 4 requirement, select lowest channel, middle channel, and highest channel in the frequency range in which device operates for testing. The detailed frequency points are as follows:

Lowest channel		Middle channel		Highest channel	
Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
0	2402	39	2441	78	2480

5.2 Test setup

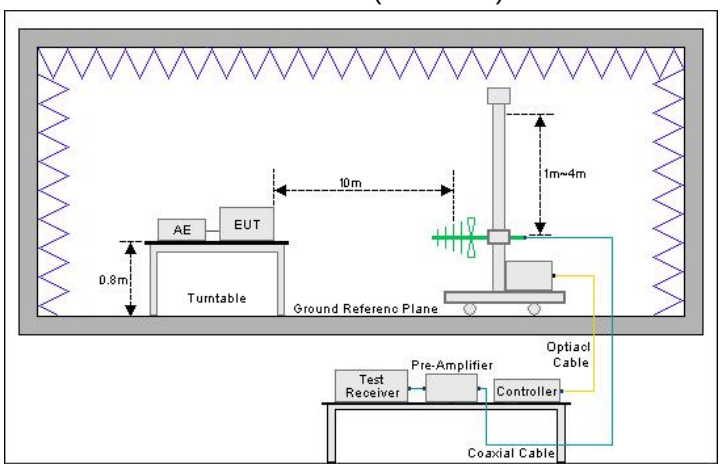
1) Conducted emission measurement:



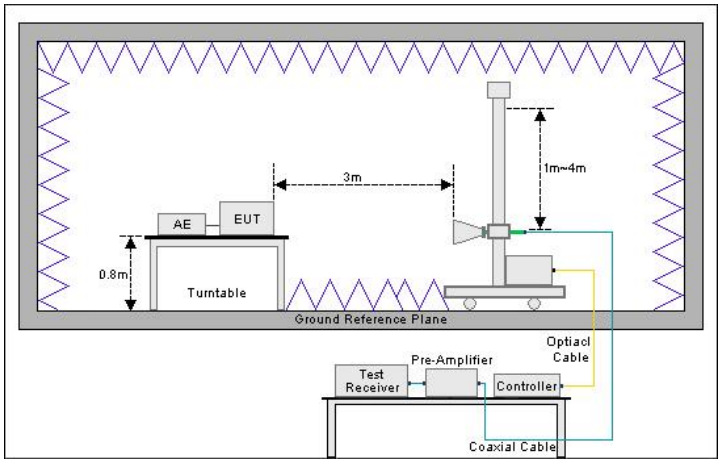
Note: The 0.8 m distance specified between EUT/AE/PSU and AMN/AAN, is applicable only to the EUT being measured. If the device is AE then it shall be >0.8 m.

2) Radiated emission measurement:

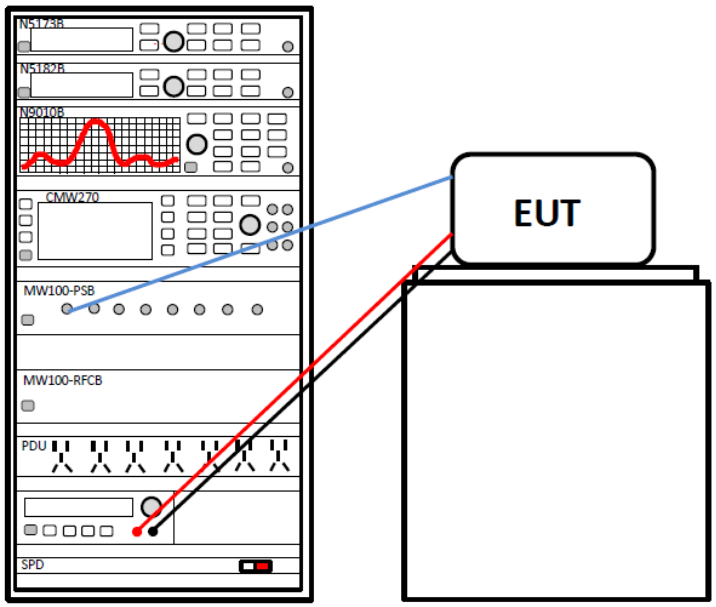
Below 1GHz (10m SAC)



Above 1GHz (3m SAC)



3) Conducted test method



5.3 Test procedure

Test method	Test step
Conducted emission	1. The E.U.T and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm/50uH coupling impedance for the measuring equipment. 2. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs). 3. Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10 on conducted measurement.
Radiated emission	**For below 1GHz:** 1. The EUT was placed on the tabletop of a rotating table 0.8 m the ground at a 10 m semi anechoic chamber. The measurement distance from the EUT to the receiving antenna is 10 m. 2. EUT works in each mode of operation that needs to be tested，and having the EUT continuously working, respectively on 3 axis (X, Y & Z) and considered typical configuration to obtain worst position. The highest signal levels relative to the limit shall be determined by rotating the EUT from 0° to 360° and with varying the measurement antenna height between 1 m and 4 m in vertical and horizontal polarizations. 3. Open the test software to control the test antenna and test turntable. Perform the test, save the test results, and export the test data. **For above 1GHz:** 1. The EUT was placed on the tabletop of a rotating table 1.5 m the ground at a 3 m fully anechoic room. The measurement distance from the EUT to the receiving antenna is 3 m. 2. EUT works in each mode of operation that needs to be tested，and having the EUT continuously working, respectively on 3 axis (X, Y & Z) and considered typical configuration to obtain worst position. The highest signal levels relative to the limit shall be determined by rotating the EUT from 0° to 360° and with varying the measurement antenna height between 1 m and 4 m in vertical and horizontal polarizations. 3. Open the test software to control the test antenna and test turntable. Perform the test, save the test results, and export the test data.
Conducted test method	1. The Bluetooth antenna port of EUT was connected to the test port of the test system through an RF cable. 2. The EUT is keeping in continuous transmission mode and tested in all modulation modes. 3. Open the test software, prepare a test plan, and control the system through the software. After the test is completed, the test report is exported through the test software.

6 Test Results

6.1 Summary

6.1.1 Clause and data summary

Test Items	FCC Part Section(s)	Test Data	Result
Antenna Requirement	15.203 15.247 (b)(4)	See Section 6.2	Pass
AC Power Line Conducted Emission	15.207	See Section 6.3	Pass
Conducted Peak Output Power	15.247 (b)(1)	Appendix – BT	Pass
20dB Occupied Bandwidth	15.247 (a)(1)	Appendix – BT	Pass
Carrier Frequencies Separation	15.247 (a)(1)	Appendix – BT	Pass
Hopping Channel Number	5.247 (a)(1)(iii)	Appendix – BT	Pass
Dwell Time	15.247 (a)(1)(iii)	Appendix – BT	Pass
Pseudorandom Frequency Hopping Sequence	15.247 (a)(1)	See Section 6.4	Pass
Band Edge (Conducted Method)	15.247 (d)	Appendix – BT	Pass
Band Edge (Radiated Method)	15.205 15.209	See Section 6.5	Pass
Spurious Emission (Conducted Method)	15.247(d)	Appendix – BT	Pass
Spurious Emission (Radiated Method)		See Section 6.6	Pass

Remark:

1. *Pass: The EUT complies with the essential requirements in the standard.*
2. *N/A: Not Applicable.*
3. *The cable insertion loss used by "RF Output Power" and other conduction measurement items is 0.5dB (provided by the customer).*

Test Method:	*ANSI C63.10-2013* *KDB 558074 D01 15.247 Meas Guidance v05r02*

6.1.2 Test Limit

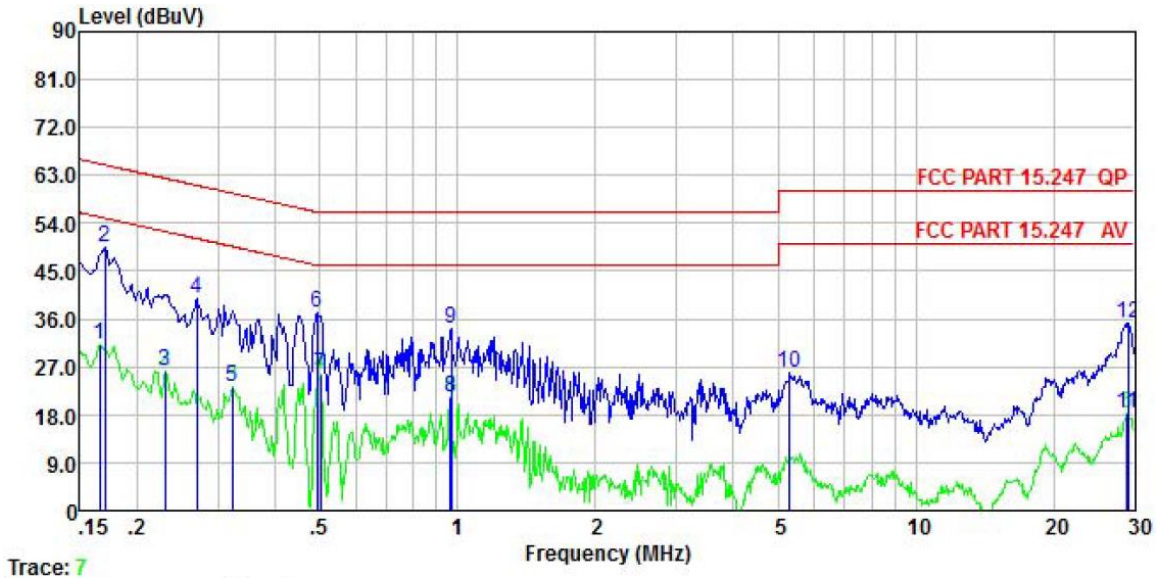
<table>
<tr><th>Items</th><th>Limit</th></tr>
<tr><td>AC Power Line Conducted Emission</td><td>
<table>
<tr><td rowspan="2">Frequency range (MHz)</td><td colspan="2">Limit (dBuV)</td></tr>
<tr><td>Quasi-peak</td><td>Average</td></tr>
<tr><td>0.15-0.5</td><td>66 to 56*</td><td>56 to 46*</td></tr>
<tr><td>0.5-5</td><td>56</td><td>46</td></tr>
<tr><td>5-30</td><td>60</td><td>50</td></tr>
<tr><td colspan="3">* Decreases with the logarithm of the frequency.</td></tr>
</table>
</td></tr>
<tr><td>Conducted Peak Output Power</td><td>For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts.</td></tr>
<tr><td>20dB Occupied Bandwidth</td><td>Within authorization band</td></tr>
<tr><td>Carrier Frequencies Separation</td><td>a) 0.025MHz or the 20dB bandwidth (whichever is greater).
b) 0.025MHz or two-thirds of the 20dB bandwidth (whichever is greater).</td></tr>
<tr><td>Hopping Channel Number</td><td>At least 15 channels.</td></tr>
<tr><td>Dwell Time</td><td>Not be greater than 0.4 seconds.</td></tr>
<tr><td>Conducted Band Edge and Conducted Spurious Emission</td><td>In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).</td></tr>
<tr><td>Radiated Band Edge</td><td>
<table>
<tr><th>Frequency</th><th>Limit (dBuV/m @3m)</th><th>Remark</th></tr>
<tr><td rowspan="2">Above 1GHz</td><td>54.0</td><td>Average Value</td></tr>
<tr><td>74.0</td><td>Peak Value</td></tr>
</table>
</td></tr>
<tr><td>Radiated Spurious Emission</td><td>
Below 1GHz (Measurement distance for 10 m):
<table>
<tr><th>Frequency</th><th>Limit (dBuV/m @3m)</th><th>Remark</th></tr>
<tr><td>30MHz-88MHz</td><td>30.0</td><td>Quasi-peak Value</td></tr>
<tr><td>88MHz-216MHz</td><td>33.5</td><td>Quasi-peak Value</td></tr>
<tr><td>216MHz-960MHz</td><td>36.0</td><td>Quasi-peak Value</td></tr>
<tr><td>960MHz-1GHz</td><td>44.0</td><td>Quasi-peak Value</td></tr>
</table>
Above 1GHz (Measurement distance for 3 m):
<table>
<tr><th>Frequency</th><th>Limit (dBuV/m @3m)</th><th>Remark</th></tr>
<tr><td rowspan="2">Above 1GHz</td><td>54.0</td><td>Average Value</td></tr>
<tr><td>74.0</td><td>Peak Value</td></tr>
</table>
</td></tr>
</table>

6.2 Antenna Requirement

Standard requirement:	FCC Part 15 C Section 15.203 & 247(b)
15.203 requirement: An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. 15.247(b) (4) requirement: (4) The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.	
E.U.T Antenna:	
The Bluetooth antenna is an Internal antenna which permanently attached, and the best case gain of the antenna is 0.5 dBi. See product internal photos for details.	

6.3 Conducted Emissions

Product name:	Smart phone	Product model:	Sky PrestigeX1
Test by:	Mike	Test mode:	BT Tx mode
Test frequency:	150 kHz ~ 30 MHz	Phase:	Line
Test voltage:	AC 120 V/60 Hz		

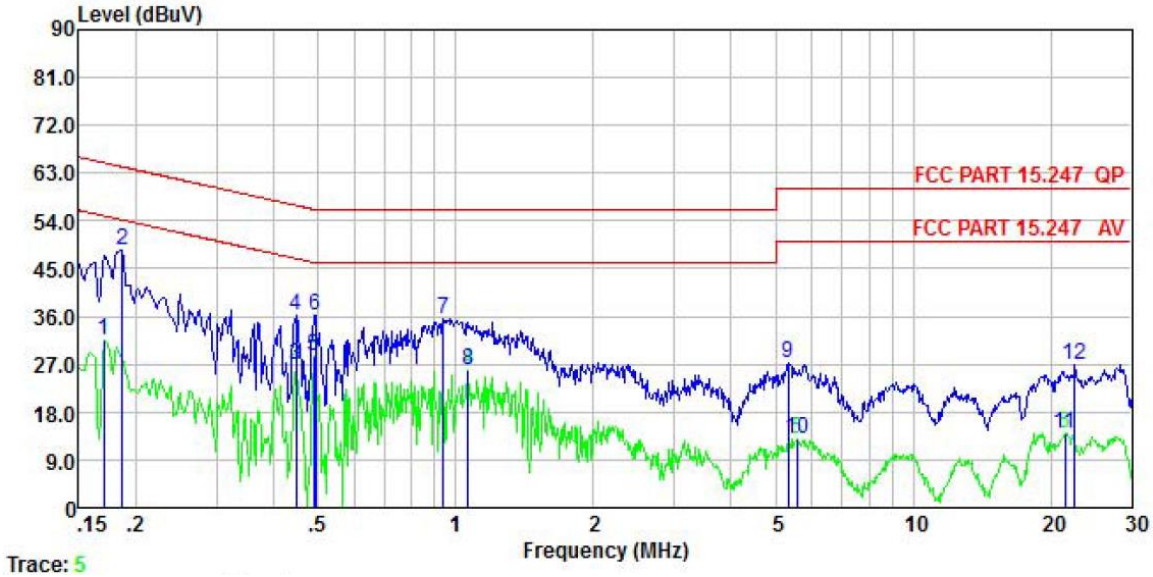


	Freq	Read Level	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.166	31.09	0.04	0.01	31.14	55.16	-24.02	Average
2	0.170	49.48	0.04	0.01	49.53	64.94	-15.41	QP
3	0.230	26.14	0.04	0.02	26.20	52.44	-26.24	Average
4	0.270	39.72	0.04	0.02	39.78	61.12	-21.34	QP
5	0.322	23.13	0.04	0.03	23.20	49.66	-26.46	Average
6	0.494	37.04	0.04	0.03	37.11	56.10	-18.99	QP
7	0.502	25.38	0.04	0.03	25.45	46.00	-20.55	Average
8	0.963	21.26	0.05	0.05	21.36	46.00	-24.64	Average
9	0.968	34.22	0.05	0.05	34.32	56.00	-21.68	QP
10	5.305	25.81	0.12	0.09	26.02	60.00	-33.98	QP
11	28.908	17.75	0.39	0.20	18.34	50.00	-31.66	Average
12	29.061	34.51	0.39	0.21	35.11	60.00	-24.89	QP

Notes:

1. *An initial pre-scan was performed on the line and neutral lines with peak detector.*
2. *Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.*
3. *Final Level = Receiver Read level + LISN Factor + Aux Factor + Cable Loss.*

Product name:	Smart phone	Product model:	Sky PrestigeX1
Test by:	Mike	Test mode:	BT Tx mode
Test frequency:	150 kHz ~ 30 MHz	Phase:	Neutral
Test voltage:	AC 120 V/60 Hz		



	Freq	Read Level	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.170	31.47	0.05	0.01	31.53	54.94	-23.41	Average
2	0.186	48.43	0.04	0.02	48.49	64.20	-15.71	QP
3	0.447	26.75	0.04	0.03	26.82	46.93	-20.11	Average
4	0.447	36.22	0.04	0.03	36.29	56.93	-20.64	QP
5	0.489	28.43	0.04	0.03	28.50	46.19	-17.69	Average
6	0.494	36.17	0.04	0.03	36.24	56.10	-19.86	QP
7	0.938	35.54	0.05	0.04	35.63	56.00	-20.37	QP
8	1.065	25.88	0.05	0.07	26.00	46.00	-20.00	Average
9	5.333	26.90	0.11	0.09	27.10	60.00	-32.90	QP
10	5.564	12.88	0.11	0.09	13.08	50.00	-36.92	Average
11	21.486	13.43	0.32	0.17	13.92	50.00	-36.08	Average
12	22.535	26.37	0.33	0.16	26.86	60.00	-33.14	QP

Notes:

1. *An initial pre-scan was performed on the line and neutral lines with peak detector.*
2. *Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.*
3. *Final Level =Receiver Read level + LISN Factor + Aux Factor + Cable Loss.*

6.4 Pseudorandom Frequency Hopping Sequence

Test Requirement:	FCC Part 15 C Section 15.247 (a)(1) requirement:

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.

Alternatively. Frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW. The system shall hop to channel frequencies that are selected at the system hopping rate from a Pseudorandom ordered list of hopping frequencies. Each frequency must be used equally on the average by each transmitter. The system receivers shall have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shall shift frequencies in synchronization with the transmitted signals.

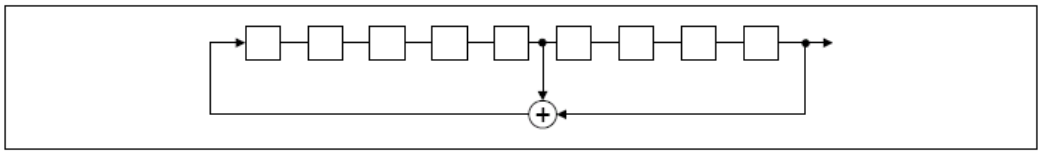
EUT Pseudorandom Frequency Hopping Sequence

The pseudorandom sequence may be generated in a nine-stage shift register whose 5th and 9th stage outputs are added in a modulo-two addition stage. And the result is fed back to the input of the first stage. The sequence begins with the first ONE of 9 consecutive ONEs; i.e. the shift register is initialized with nine ones.

• Number of shift register stages: 9

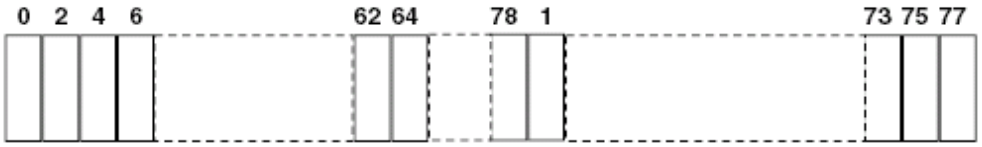
• Length of pseudo-random sequence: 2^9 -1 = 511 bits

• Longest sequence of zeros: 8 (non-inverted signal)



Linear Feedback Shift Register for Generation of the PRBS sequence

An example of Pseudorandom Frequency Hopping Sequence as follow:

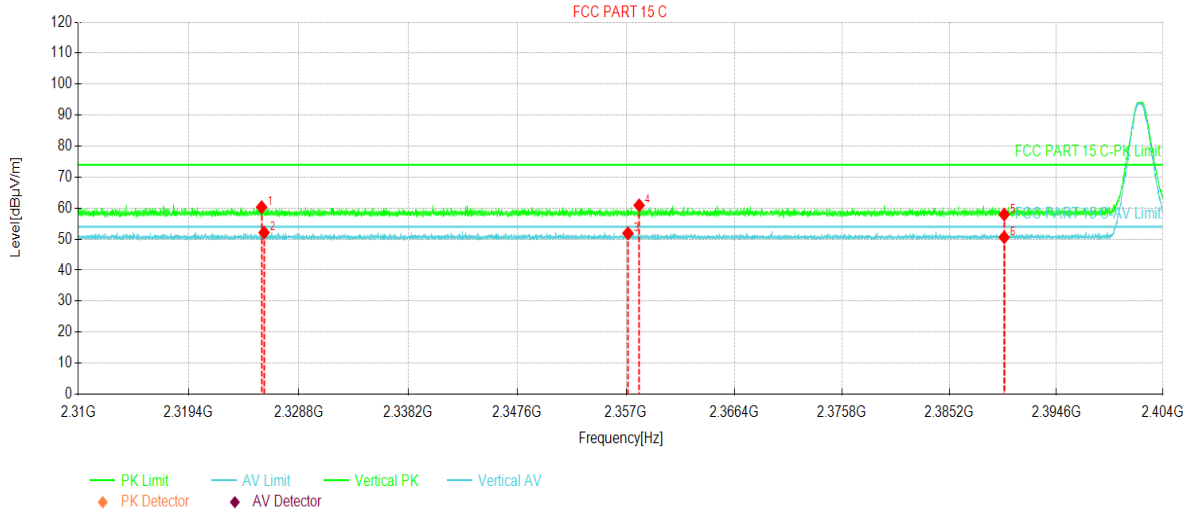


Each frequency used equally on the average by each transmitter.

The system receivers have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shift frequencies in synchronization with the transmitted signals.

6.5 Band Edge (Radiated Method)

Product Name:	Smart phone	Product Model:	Sky PrestigeX1
Test By:	Mike	Test mode:	DH1 Tx mode
Test Channel:	Lowest channel	Polarization:	Vertical
Test Voltage:	AC 120/60Hz		

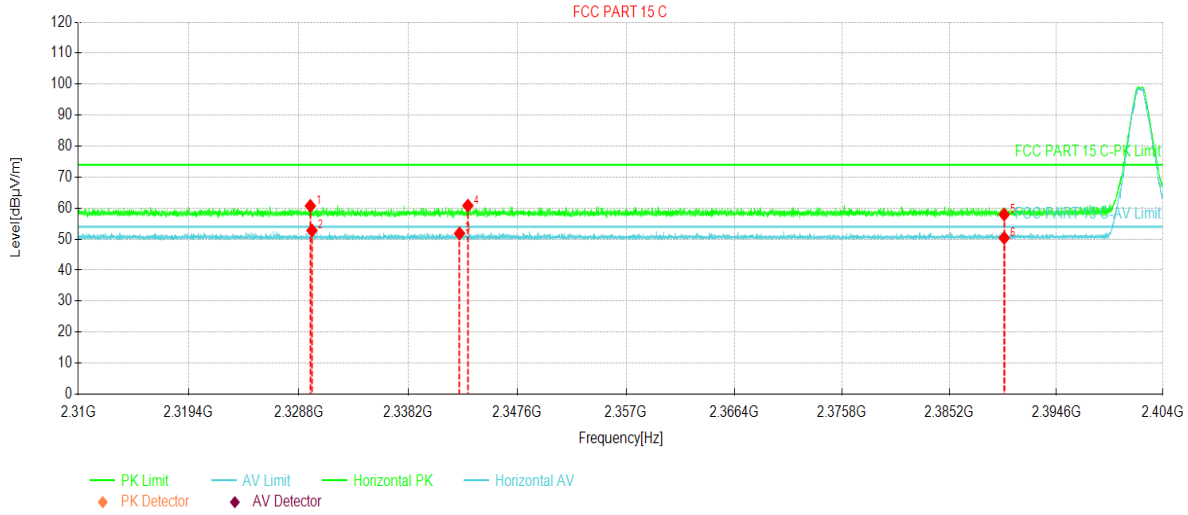


NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Trace	Polarity
1	2325.62	24.94	60.32	35.38	74.00	13.68	PK	Vertical
2	2325.83	16.75	52.13	35.38	54.00	1.87	AV	Vertical
3	2357.16	16.29	51.90	35.61	54.00	2.10	AV	Vertical
4	2358.13	25.30	60.91	35.61	74.00	13.09	PK	Vertical
5	2390.00	22.09	57.93	35.84	74.00	16.07	PK	Vertical
6	2390.00	14.76	50.60	35.84	54.00	3.40	AV	Vertical

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are lower than the limit 20dB and not show in test report.*

Product Name:	Smart phone	Product Model:	Sky PrestigeX1
Test By:	Mike	Test mode:	DH1 Tx mode
Test Channel:	Lowest channel	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz		

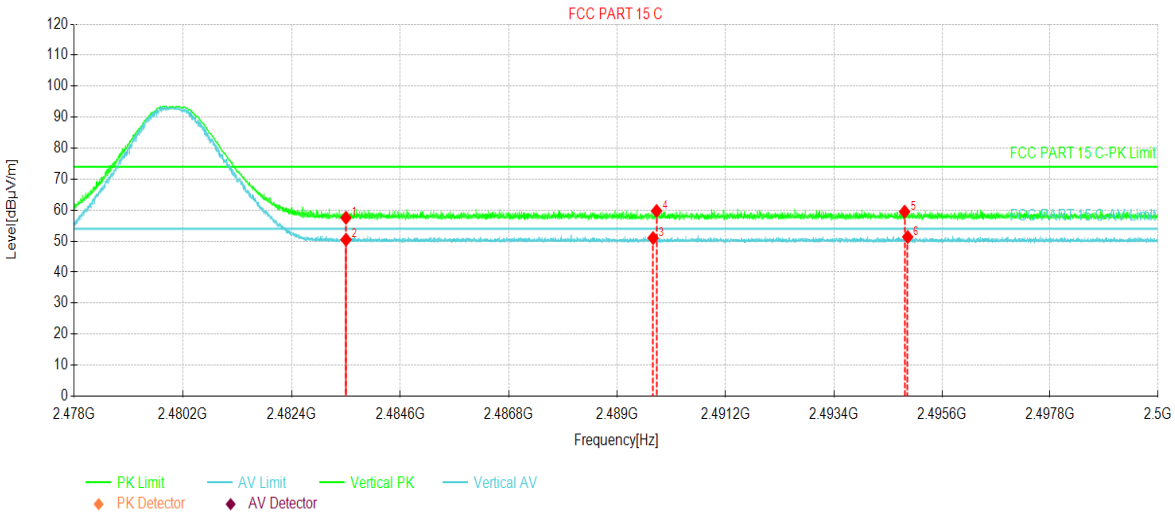


NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Trace	Polarity
1	2329.79	25.33	60.74	35.41	74.00	13.26	PK	Horizontal
2	2329.93	17.38	52.79	35.41	54.00	1.21	AV	Horizontal
3	2342.61	16.35	51.85	35.50	54.00	2.15	AV	Horizontal
4	2343.33	25.29	60.80	35.51	74.00	13.20	PK	Horizontal
5	2390.00	22.09	57.93	35.84	74.00	16.07	PK	Horizontal
6	2390.00	14.55	50.39	35.84	54.00	3.61	AV	Horizontal

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are lower than the limit 20dB and not show in test report.*

Product Name:	Smart phone	Product Model:	Sky PrestigeX1
Test By:	Mike	Test mode:	DH1 Tx mode
Test Channel:	Highest channel	Polarization:	Vertical
Test Voltage:	AC 120/60Hz		

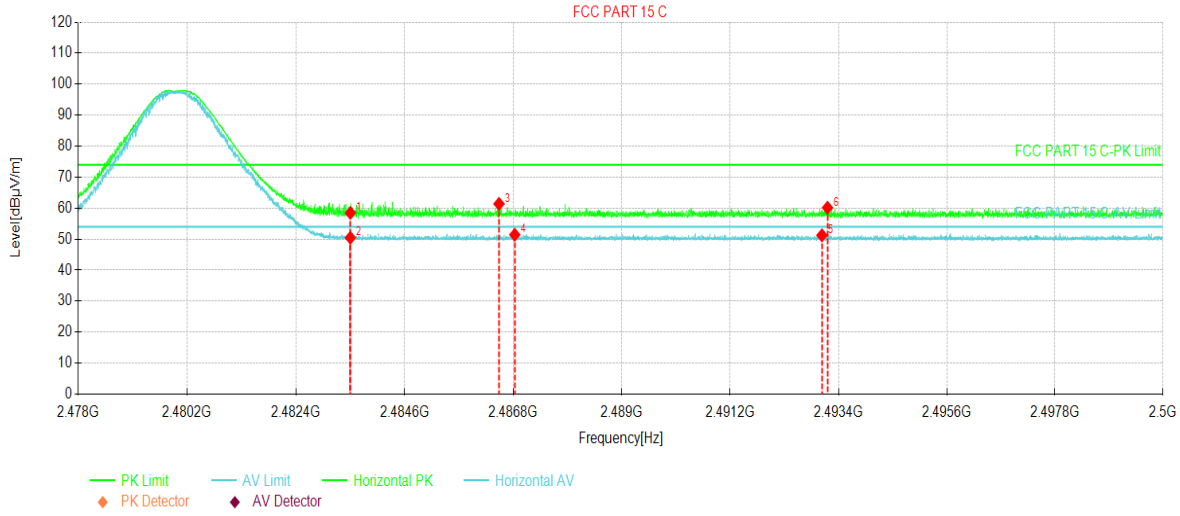


NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Trace	Polarity
1	2483.50	21.82	57.54	35.72	74.00	16.46	PK	Vertical
2	2483.50	14.75	50.47	35.72	54.00	3.53	AV	Vertical
3	2489.72	15.31	51.01	35.70	54.00	2.99	AV	Vertical
4	2489.79	24.06	59.76	35.70	74.00	14.24	PK	Vertical
5	2494.83	23.81	59.50	35.69	74.00	14.50	PK	Vertical
6	2494.90	15.67	51.36	35.69	54.00	2.64	AV	Vertical

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are lower than the limit 20dB and not show in test report.*

Product Name:	Smart phone	Product Model:	Sky PrestigeX1
Test By:	Mike	Test mode:	DH1 Tx mode
Test Channel:	Highest channel	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz		



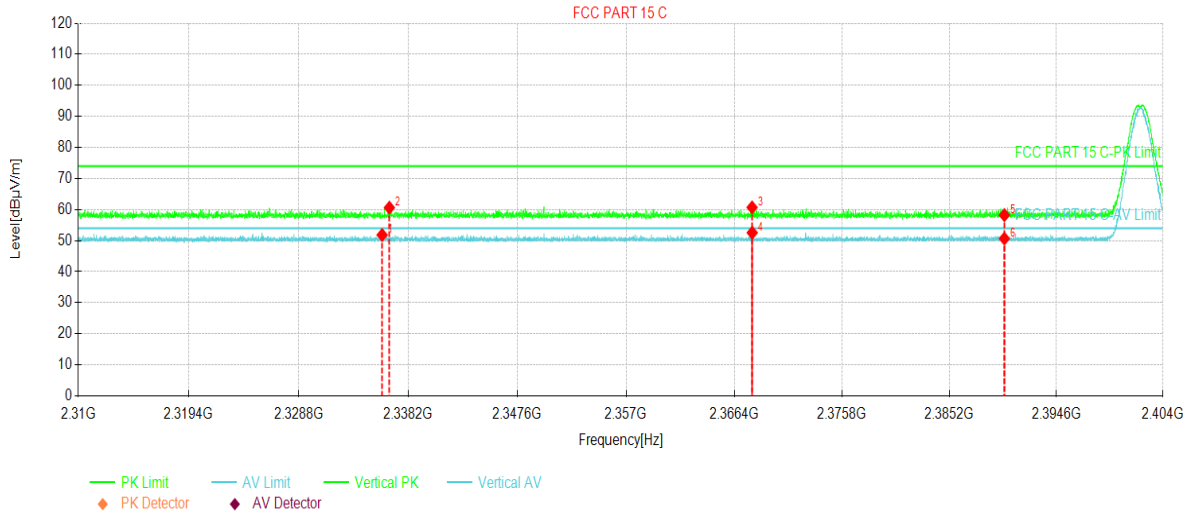
NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Trace	Polarity
1	2483.50	22.76	58.48	35.72	74.00	15.52	PK	Horizontal
2	2483.50	14.74	50.46	35.72	54.00	3.54	AV	Horizontal
3	2486.51	25.68	61.39	35.71	74.00	12.61	PK	Horizontal
4	2486.83	15.72	51.43	35.71	54.00	2.57	AV	Horizontal
5	2493.06	15.54	51.24	35.70	54.00	2.76	AV	Horizontal
6	2493.17	24.43	60.13	35.70	74.00	13.87	PK	Horizontal

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are lower than the limit 20dB and not show in test report.*

π/4-DQPSK mode

Product Name:	Smart phone	**Product Model:**	Sky PrestigeX1
Test By:	Mike	**Test mode:**	2DH1 Tx mode
Test Channel:	Lowest channel	**Polarization:**	Vertical
Test Voltage:	AC 120/60Hz		

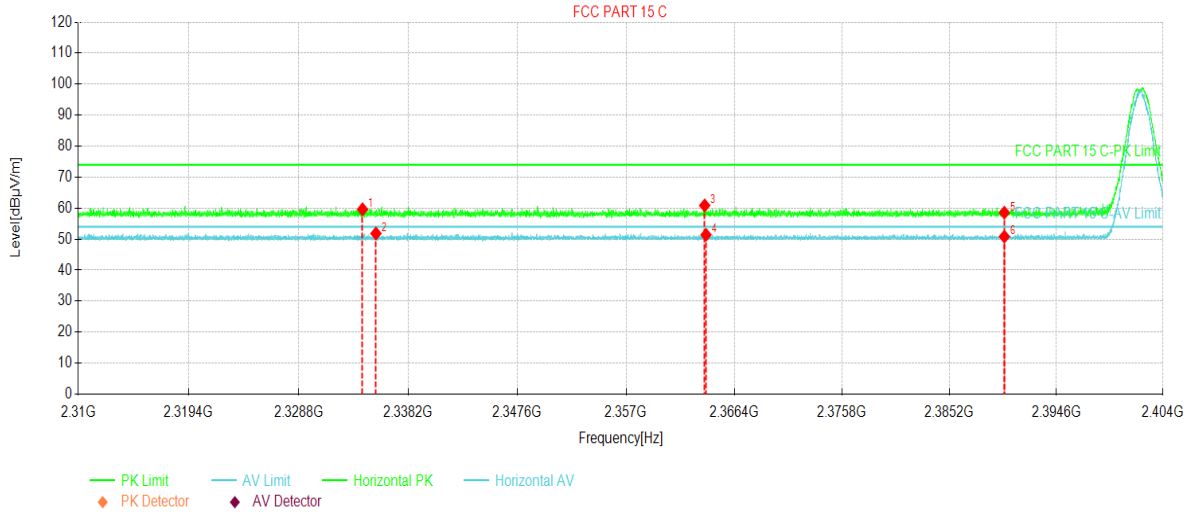


NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Trace	Polarity
1	2335.95	16.37	51.83	35.46	54.00	2.17	AV	Vertical
2	2336.57	25.15	60.61	35.46	74.00	13.39	PK	Vertical
3	2367.95	25.02	60.70	35.68	74.00	13.30	PK	Vertical
4	2367.96	16.87	52.55	35.68	54.00	1.45	AV	Vertical
5	2390.01	22.37	58.21	35.84	74.00	15.79	PK	Vertical
6	2390.01	14.82	50.66	35.84	54.00	3.34	AV	Vertical

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are lower than the limit 20dB and not show in test report.*

Product Name:	Smart phone	Product Model:	Sky PrestigeX1
Test By:	Mike	Test mode:	2DH1 Tx mode
Test Channel:	Lowest channel	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz		

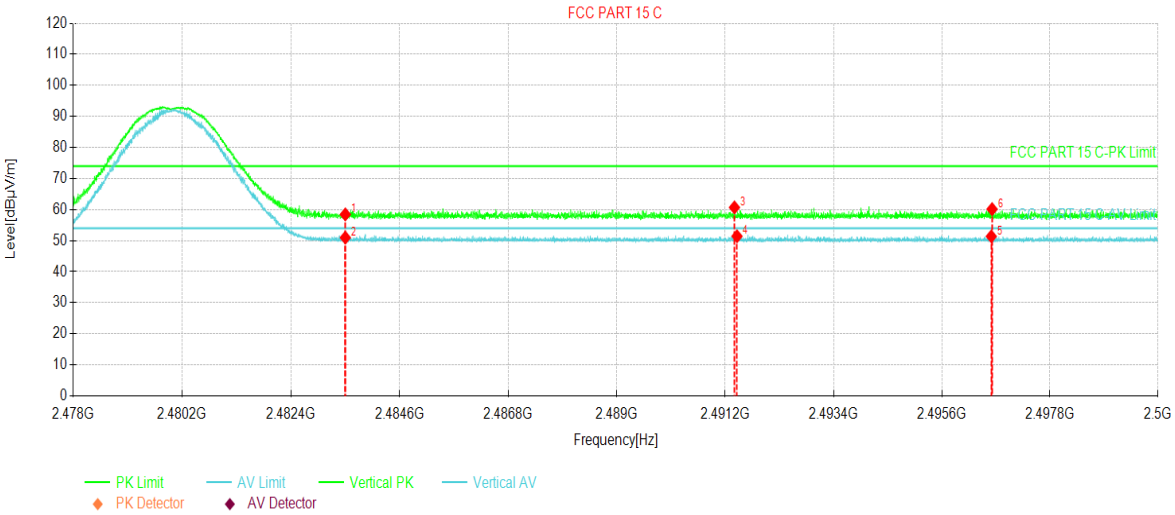


NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Trace	Polarity
1	2334.27	24.19	59.63	35.44	74.00	14.37	PK	Horizontal
2	2335.42	16.37	51.82	35.45	54.00	2.18	AV	Horizontal
3	2363.82	25.21	60.86	35.65	74.00	13.14	PK	Horizontal
4	2363.94	15.75	51.40	35.65	54.00	2.60	AV	Horizontal
5	2390.01	22.71	58.55	35.84	74.00	15.45	PK	Horizontal
6	2390.01	14.98	50.82	35.84	54.00	3.18	AV	Horizontal

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are lower than the limit 20dB and not show in test report.*

Product Name:	Smart phone	Product Model:	Sky PrestigeX1
Test By:	Mike	Test mode:	2DH1 Tx mode
Test Channel:	Highest channel	Polarization:	Vertical
Test Voltage:	AC 120/60Hz		

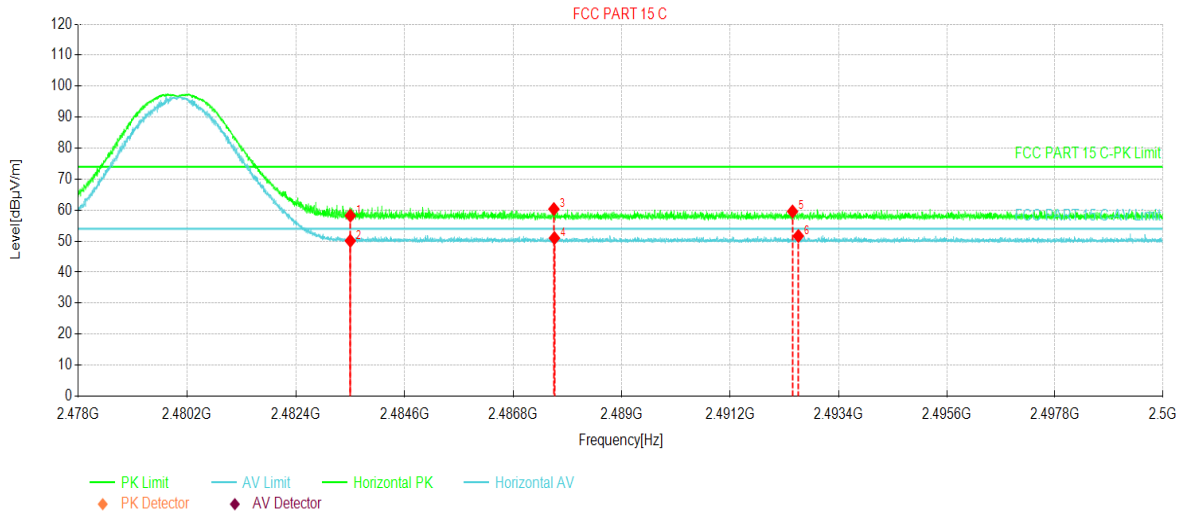


NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Trace	Polarity
1	2483.50	22.72	58.44	35.72	74.00	15.56	PK	Vertical
2	2483.50	15.24	50.96	35.72	54.00	3.04	AV	Vertical
3	2491.38	24.99	60.69	35.70	74.00	13.31	PK	Vertical
4	2491.43	15.71	51.41	35.70	54.00	2.59	AV	Vertical
5	2496.60	15.68	51.37	35.69	54.00	2.63	AV	Vertical
6	2496.62	24.44	60.13	35.69	74.00	13.87	PK	Vertical

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are lower than the limit 20dB and not show in test report.*

Product Name:	Smart phone	Product Model:	Sky PrestigeX1
Test By:	Mike	Test mode:	2DH1 Tx mode
Test Channel:	Highest channel	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz		



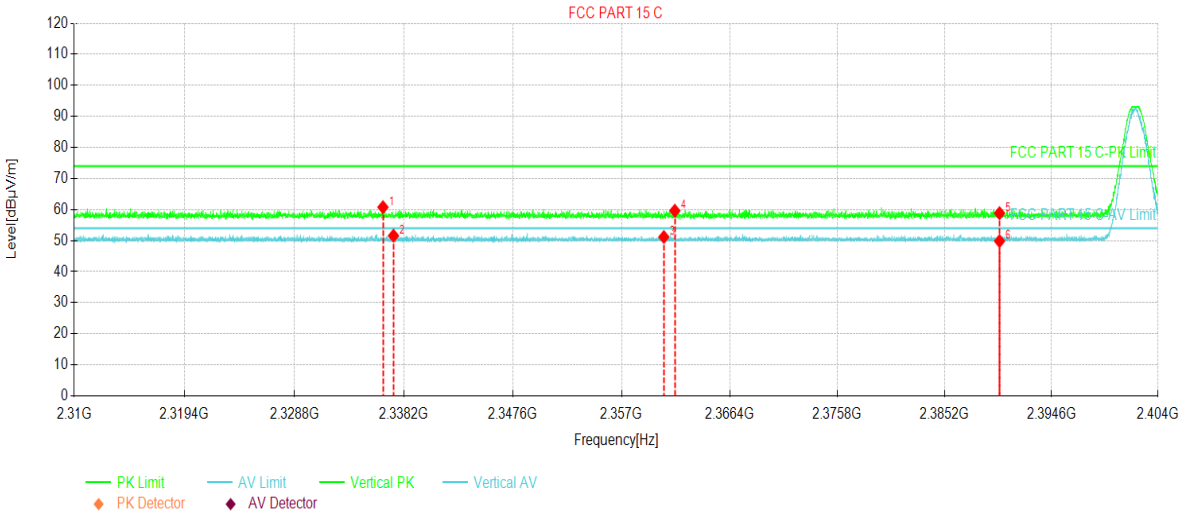
NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Trace	Polarity
1	2483.50	22.50	58.22	35.72	74.00	15.78	PK	Horizontal
2	2483.50	14.38	50.10	35.72	54.00	3.90	AV	Horizontal
3	2487.62	24.65	60.36	35.71	74.00	13.64	PK	Horizontal
4	2487.63	15.29	51.00	35.71	54.00	3.00	AV	Horizontal
5	2492.46	23.87	59.57	35.70	74.00	14.43	PK	Horizontal
6	2492.58	15.96	51.66	35.70	54.00	2.34	AV	Horizontal

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are lower than the limit 20dB and not show in test report.*

8DPSK mode

Product Name:	Smart phone	**Product Model:**	Sky PrestigeX1
Test By:	Mike	**Test mode:**	3DH1 Tx mode
Test Channel:	Lowest channel	**Polarization:**	Vertical
Test Voltage:	AC 120/60Hz		

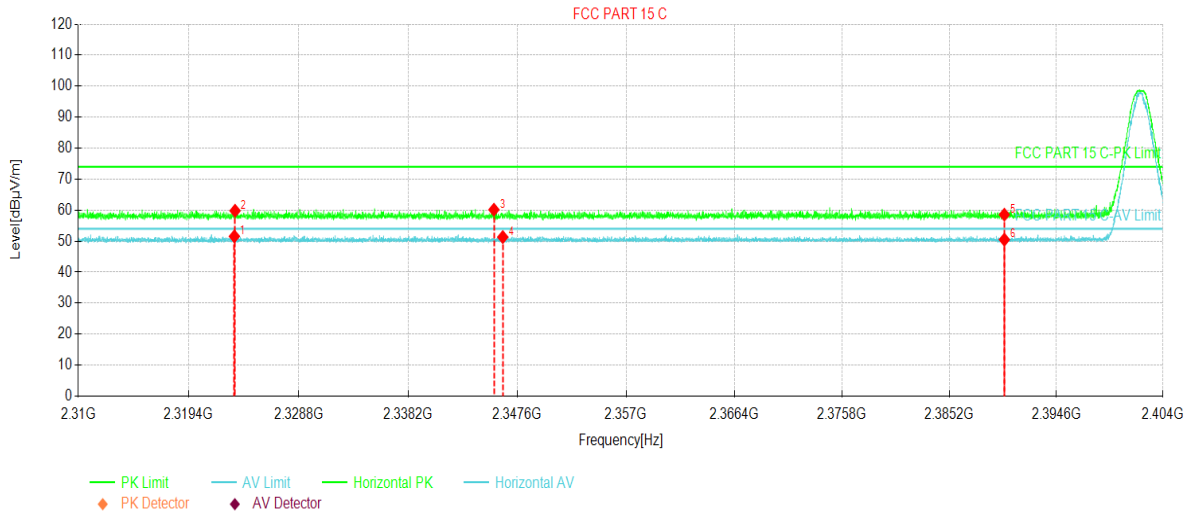


NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Trace	Polarity
1	2336.40	25.30	60.76	35.46	74.00	13.24	PK	Vertical
2	2337.30	16.13	51.59	35.46	54.00	2.41	AV	Vertical
3	2360.67	15.55	51.18	35.63	54.00	2.82	AV	Vertical
4	2361.62	24.00	59.64	35.64	74.00	14.36	PK	Vertical
5	2390.01	23.01	58.85	35.84	74.00	15.15	PK	Vertical
6	2390.01	14.01	49.85	35.84	54.00	4.15	AV	Vertical

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are lower than the limit 20dB and not show in test report.*

Product Name:	Smart phone	Product Model:	Sky PrestigeX1
Test By:	Mike	Test mode:	3DH1 Tx mode
Test Channel:	Lowest channel	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz		

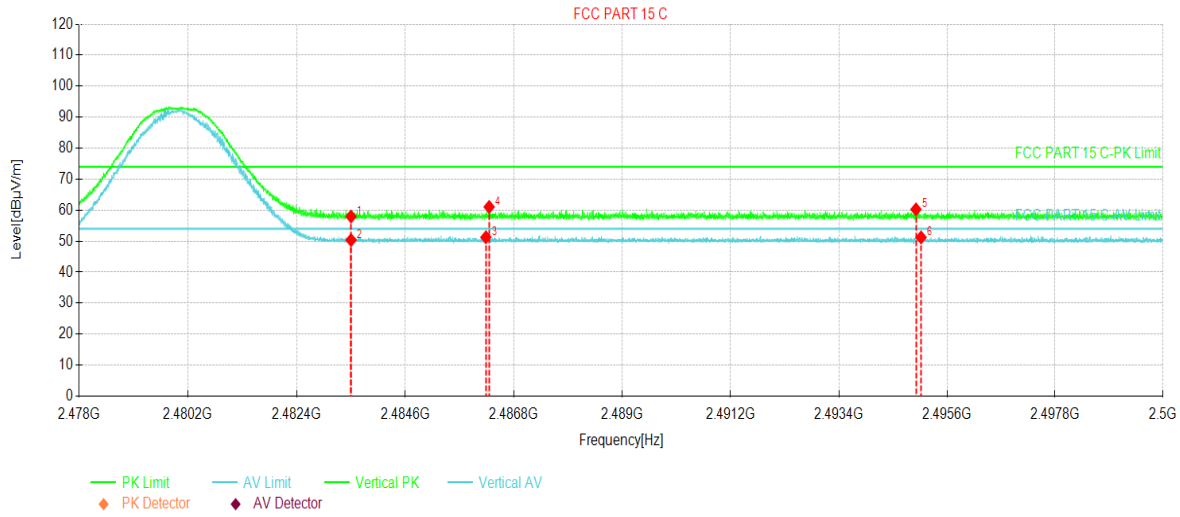


NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Trace	Polarity
1	2323.30	16.18	51.55	35.37	54.00	2.45	AV	Horizontal
2	2323.35	24.44	59.81	35.37	74.00	14.19	PK	Horizontal
3	2345.57	24.62	60.14	35.52	74.00	13.86	PK	Horizontal
4	2346.34	15.78	51.31	35.53	54.00	2.69	AV	Horizontal
5	2390.01	22.71	58.55	35.84	74.00	15.45	PK	Horizontal
6	2390.01	14.64	50.48	35.84	54.00	3.52	AV	Horizontal

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are lower than the limit 20dB and not show in test report.*

Product Name:	Smart phone	Product Model:	Sky PrestigeX1
Test By:	Mike	Test mode:	3DH1 Tx mode
Test Channel:	Highest channel	Polarization:	Vertical
Test Voltage:	AC 120/60Hz		

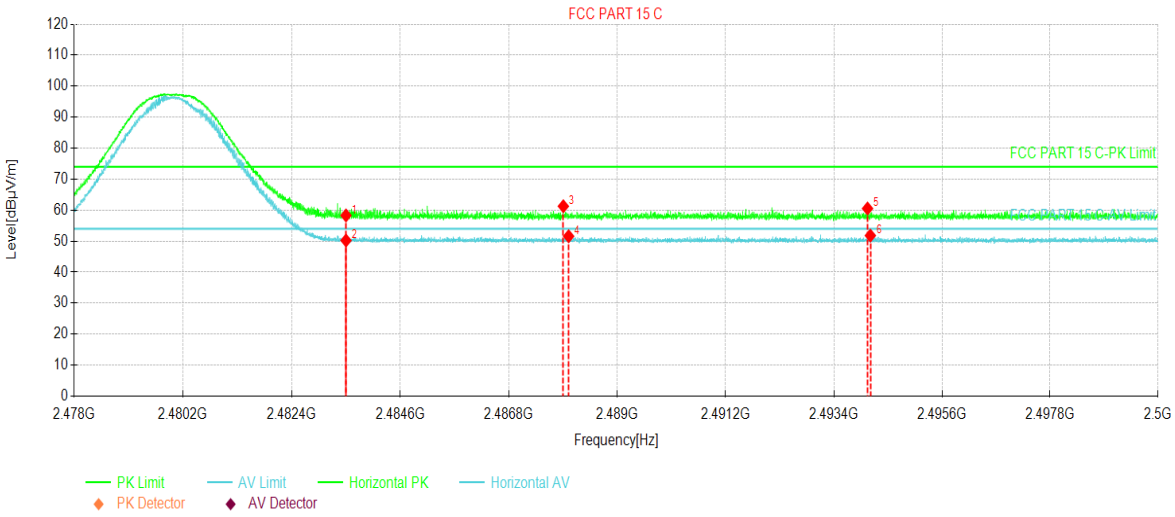


NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Trace	Polarity
1	2483.50	22.23	57.95	35.72	74.00	16.05	PK	Vertical
2	2483.50	14.63	50.35	35.72	54.00	3.65	AV	Vertical
3	2486.23	15.55	51.26	35.71	54.00	2.74	AV	Vertical
4	2486.29	25.33	61.04	35.71	74.00	12.96	PK	Vertical
5	2494.96	24.57	60.26	35.69	74.00	13.74	PK	Vertical
6	2495.07	15.53	51.22	35.69	54.00	2.78	AV	Vertical

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are lower than the limit 20dB and not show in test report.*

Product Name:	Smart phone	Product Model:	Sky PrestigeX1
Test By:	Mike	Test mode:	3DH1 Tx mode
Test Channel:	Highest channel	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz		



NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Trace	Polarity
1	2483.50	22.57	58.29	35.72	74.00	15.71	PK	Horizontal
2	2483.50	14.50	50.22	35.72	54.00	3.78	AV	Horizontal
3	2487.90	25.55	61.26	35.71	74.00	12.74	PK	Horizontal
4	2488.01	15.87	51.58	35.71	54.00	2.42	AV	Horizontal
5	2494.08	24.84	60.53	35.69	74.00	13.47	PK	Horizontal
6	2494.14	16.11	51.80	35.69	54.00	2.20	AV	Horizontal

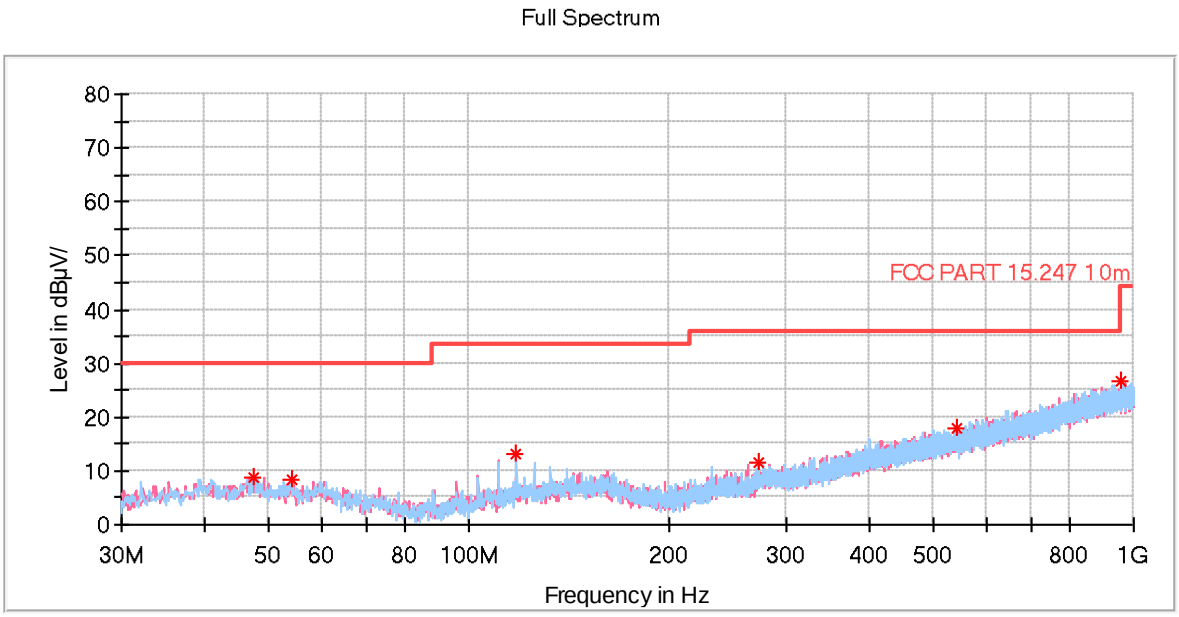
Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are lower than the limit 20dB and not show in test report.*

6.6 Spurious Emission (Radiated Method)

Below 1GHz:

Product Name:	Smart phone	**Product Model:**	Sky PrestigeX1
Test By:	Mike	**Test mode:**	BT Tx mode
Test Frequency:	30 MHz ~ 1 GHz	**Polarization:**	Vertical & Horizontal
Test Voltage:	AC 120/60Hz		



Frequency (MHz)	MaxPeak (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
117.882000	13.30	33.50	20.20	100.0	H	90.0	-17.3
272.985000	11.52	36.00	24.48	100.0	H	137.0	-14.8
542.354000	18.05	36.00	17.95	100.0	H	170.0	-7.9
954.119000	26.50	36.00	9.50	100.0	H	186.0	0.0
54.250000	8.38	30.00	21.62	100.0	V	202.0	-16.0
47.460000	8.95	30.00	21.05	100.0	V	318.0	-15.7

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are lower than the limit 20dB and not show in test report.*
3. *The Aux Factor is a notch filter switch box loss, this item is not used.*

Above 1GHz:

Test channel: Lowest channel						
Detector: Peak Value						
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Polarization
4804.00	55.92	-9.60	46.32	74.00	27.68	Vertical
4804.00	57.61	-9.60	48.01	74.00	25.99	Horizontal
Detector: Average Value						
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Polarization
4804.00	48.48	-9.60	38.88	54.00	15.12	Vertical
4804.00	49.96	-9.60	40.36	54.00	13.64	Horizontal
Test channel: Middle channel						
Detector: Peak Value						
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Polarization
4882.00	55.89	-9.05	46.84	74.00	27.16	Vertical
4882.00	57.32	-9.05	48.27	74.00	25.73	Horizontal
Detector: Average Value						
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Polarization
4882.00	48.50	-9.05	39.45	54.00	14.55	Vertical
4882.00	50.39	-9.05	41.34	54.00	12.66	Horizontal
Test channel: Highest channel						
Detector: Peak Value						
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Polarization
4960.00	56.00	-8.45	47.55	74.00	26.45	Vertical
4960.00	57.62	-8.45	49.17	74.00	24.83	Horizontal
Detector: Average Value						
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Polarization
4960.00	48.72	-8.45	40.27	54.00	13.73	Vertical
4960.00	50.02	-8.45	41.57	54.00	12.43	Horizontal

Remark:

1. Final Level =Receiver Read level + Factor.

2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

------End of report------